

IFW

Application/Control Number: 10/782,005  
Art Unit: 3711



Specifications

Content of Specifications

(a) TITLE OF THE INVENTION

Floating Sphere

(b) CROSS-REFERENCE TO RELATED APPLICATIONS

U.S. Patent Documents:

3,591,975 \* 07/1971 Terc 446/225

4,547,167 \* 10/1985 Bergman 446/220

5,647,809 \* 07/1997 Yip 473/594

6,572,499 \* 06/2003 Davies 473/604

(c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH  
OR DEVELOPMENT

Not Applicable

(d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH  
AGREEMENT

Not Applicable

(e) INCORPORATION-BY REFERENCE OF MATERIAL SUBMITTED  
ON A COMPACT DISC

Not Applicable

REFERENCE TO A "MICROFICHE APPENDIX"

Not applicable

(f) BACKGROUND OF THE INVENTION

(1) Field of the invention

This initial sphere is to be the object of further study in the field of luminous and

electrical induction. Attempts at a free floating object to have qualities of a light bulb, but with different areas of study in generating light.

For now used to observe, a novelty or a toy.

(2) Description of Related Art

U.S. Patent Documents:

3,591,975 \* 07/1971 Terc 446/225

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Claims of Terc - (U.S. Patent Document: 3,591,975 \* 07/1971 Terc 446/225-claim 3) Although Terc disclosed a toy being filled with helium and balanced by weights so that the toy is substantially weightless. Terc fails to show any specific calculated figures to make this happen.

Terc mentions in his claim a rubbery inflatable material having an inlet port to fill with helium. He doesn't specify the proportion of Helium to be used, nor does he specify the weight of his toy. He is assuming that he can put Helium into his toy and it will float. Then if it floats, he will use adjustable weights to achieve buoyancy.

My calculations state when a certain amount of helium is put into a specified weighted sphere and permanently sealed (with no inlet ports) that it will stay in mid air where one puts it, only to move when acted upon by another source.

I will also contend that helium is the ideal gas as is air.

Terc also implies or anticipates (column 2 lines 49, 50 and 51) "polyethylene which is bounded together at their marginal edges by a seam such as a hot melt adhesive

or Teflon material to bind the seams together or in any other conventional fashion". In other words there are two pieces that have to come together.

Again Terc fails at specifics as I will contend that the plastic material being used will be blow molded as one piece and sealed with the densest plastic available at the time of manufacturing (Polyethylene LP5100, Polypropylene, and Rexine). Because of our rapid technological and scientific advancements in plastics more dense plastics are being introduced onto the market each year.

Tercs thought of Polyethylene, I deduced and contend from column 1 lines 43-55 that was to cover his bulbous rubbery elastic toy (see column 3 claim 5) to prevent helium from escaping at a faster rate than if covered by a different shape made of Polyethylene. Terc presents Polyethylene as a synthetic apriori.

My thought provides a dense plastic sphere holding a lighter than air gas without an additional material inside the plastic sphere.

Bergman in his summary, U.S. Patent Documents 4,547,167 \* 10/1985 Bergman 446/220 - lines 3,4 and 5 references a gas lighter than air being substantially impervious to the passage of lighter than air gas, although in his description, column 3 lines 45 and 46 contradicts himself, exclaiming "However when lighter than air gas escapes from the balloon". In other words not substantially impervious. Also the inclusion of additional weights enters the scene in column 3, lines 65, 66, 67 and 68 to achieve buoyancy of this object. I will contend that the more dense the plastic used in the process, the less chance the helium will have to escape.

Terc, Bergman, Davies and Yip all mentioned the use of elastic materials and weights. All hoped to achieve a ball/toy that is light enough, with the help of some

helium and adjustable weights to achieve their purposes through trial and error.

I demonstrate that an object of a specific size, weight and determined amount of helium can achieve buoyancy.

I also show one can achieve a mid air floatation vessel through the use of mathematical formulas, principles, laws and manufacturing procedures. Not through the trial and error procedures of adding weights and/or inlet ports to an object filled with an unspecified amount of helium.

(g) BRIEF SUMMARY OF THE INVENTION

The Floating Sphere is to be blow molded. Injected with helium and sealed to the specific calculations mentioned.

In doing so the weight of the sphere and volume of helium will allow the sphere to stay where placed and float in mid air.

(h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).

FIG.1

Shows the inside and outside radius of the sphere and also the volume of the sphere. This depicts the size of the sphere needed to float in mid air when filling the volume with Helium.

FIG 2

#1 represents the earth.

#2 the long lines with arrows pointing down represents the gravitational pull of the earth.

#3 the small arrows pointing inward, encircling the sphere represents air pressure/barometric pressure around the ball.

#4 the grids encompassing the complete inside of the sphere with arrows pointing up represent the volume of helium sealed inside the ball and creating lift proportionate to the gravitational pull of the earth and the air pressure allowing it neutral buoyancy in midair allowing it to stay where placed.

(i) DETAILED DESCRIPTION OF THE INVENTION

The Floating Sphere will be blow molded in the shape of a sphere. The inside diameter will be 9 inches; the outside diameter will be  $9 \frac{1}{32}$  inches. The inside radius will be 4.53125 inches, the outside radius 4.5 inches.

The weight of the Sphere will be 2.1875 ounces. The sphere will be made of LP5100 Polyethylene with a density of .950.

The air within the Sphere will be drawn out and injected with 2.165625 cubic feet of helium within the volume of the sphere, which is .22009282407 cubic feet. This is possible, see "Boyles Law" - "The volume gas capacity rule dictates that 10 times the amount of gas can be compressed into a hollow vessel". (Phenomenon) - "at a given temperature when a gas is compressed the volume of the gas will decrease". Also see "Archimedes Principle of Buoyancy".

Upon being filled with helium, the ball will be sealed as the injector needle is drawn out. A second process will secrete polyethylene as it reaches the inner wall of the sphere and stop secretion at the outer wall sealing a hole  $\frac{1}{64}$  inches in thickness.

The final purpose of the Floating Sphere at this point of evolvement will float mid air. One point is being lifted by helium and the other being drawn down by gravity. Now the ball can be set anywhere in the air and it will remain at rest (see "Newton's Law").

(j) CLAIM OR CLAIMS (commencing on a separate sheet)

(k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet of paper)

(l) SEQUENCE LISTING